California Air Resources Board

Work Program for U.S. EPA 105 Grant

Air Resources Board
Program Overview

INTRODUCTION

The California Air Resources Board (ARB) is the State agency responsible for protecting public health and the environment from the harmful effects of air pollution. ARB has 11 Governor-appointed board members and about 1,300 staff in nine divisions.

ARB oversees all air pollution control efforts in California, including the activities of 35 independent local air districts. State law vests ARB with direct authority to regulate pollution from motor vehicles, fuels, and consumer products. Primary responsibility for controlling pollution from business and industry lies with the local air districts. The federal government retains the exclusive authority to regulate interstate trucks registered outside California, certain new farm and construction equipment, new locomotives, ships, and aircraft. ARB works in cooperation with the districts and the U.S. Environmental Protection Agency (U.S. EPA) on strategies to attain State and federal ambient air quality standards and reduce air toxics emissions.

The scientific backbone of California's air quality programs is ARB's research and technical work on the causes, effects, and methods for control of air pollution. Extensive health effects studies assess whether ARB's current programs adequately protect the health of all Californians and enable the identification of pollutants of most concern. California's air monitoring network, emission inventory, and atmospheric modeling capability are the most extensive in the nation. This scientific foundation provides the information needed to pursue effective strategies to cut air emissions and reduce health impacts from air pollution.

ARB's regulatory and other programs continue to set the standard for innovative and effective air pollution mitigation in California and on both national and worldwide fronts. However, these programs can only achieve their projected benefits if they are properly and consistently implemented. ARB's enforcement program incorporates both a compliance foundation, through industry training programs and compliance assistance materials that provide regulated industries with the opportunity to learn and understand how to comply with regulations, and an enforcement arm that brings violators to justice, effectively creating an incentive to comply.

Outreach and cooperative efforts with community, industry, academic, and governmental stakeholders are critical to achieving ARB's goals: community members help identify priorities and address local concerns; businesses assist in identifying feasible and cost-effective controls with reasonable implementation timeframes; and academic institutions provide the scientific information that underpin the programs.

Other government agencies cooperate on issues that fall under their jurisdiction. These partnerships help ARB meet California's clean air quality goals.

California's residents, businesses, and agencies have made tremendous progress in improving air quality. In the Los Angeles area, peak ozone concentrations declined by 55 percent from 1985 to 2008, while average levels of inhaleable particulate matter (PM10) fell by about 20 percent from 1990 to 2008.

The number of unhealthy days has improved considerably across the State, down by almost 60 percent from 1985 to 2008 in Los Angeles. The decline in health risk from air toxics, like benzene and lead, has been equally dramatic. Despite this progress, over 90 percent of Californians still live in areas with air that is unhealthy at times.

ARB programs reflect a commitment to clean air and a healthier future for all Californians. Specific actions to achieve priorities are described in State Implementation Plans and other documents such as the Diesel Risk Reduction Plan, Emission Reduction Plan for Ports and International Goods Movement, and the Environmental Justice Action Plan.

MISSION STATEMENT

To promote and protect the public health, welfare, and ecological resources through the effective and efficient reduction of air pollutants, while recognizing and considering the effects on the economy of the State.

PRIMARY WORK STATEMENT

Developing and implementing new strategies to effectively reduce air pollution emissions on a local, regional, statewide, and global level by:

- **Adopting and implementing new strategies to cut ozone, particulate matter, and air toxics from all sources.**

  ARB develops and implements technology-advancing, cost-effective emission reduction measures for all sources under its authority including cars and trucks, off-road equipment, recreational vehicles, fuels and fueling operations and consumer products. Reducing particulate matter from diesel engines is the highest priority for the air toxics program. To further cut personal exposure, ARB examines ways to address indoor air pollution.

- **Adopting and implementing measures to reduce the risk from exposure to particulate matter from diesel engines 75 percent by 2010 and 85 percent by 2020.**

  ARB reduces particulate matter from diesel engines through programs that require newer cleaner engines, engine retrofits and cleaner fuels, as well as

financial incentives programs to accelerate the clean-up of older, dirtier engines. As part of these programs, ARB has developed regulations that will reduce PM emissions from nearly all on- and off-road heavy duty diesel vehicles and engines that operate in California.

- **Continuing implementation of the Goods Movement Emission Reduction Plan.**

  ARB implements its 2006 Emission Reduction Plan for Ports and Goods Movement that identifies and initiates specific actions necessary to reduce goods movement-related emissions and protect public health. The basic strategies include regulatory actions, incentive programs, lease agreements, careful land use decisions, and voluntary actions. The measures address all significant emission sources associated with the international and domestic goods movement including trucks, locomotives, marine vessels, harbor craft, and cargo handling equipment. ARB is implementing or developing regulations for port and other trucks, transportation refrigeration units and auxiliary power units, ship fuels and ships at dock, locomotive fuel, harbor craft, and cargo handling equipment. ARB is also providing incentives for cleaner freight technology through the $1 billion Proposition 1B Goods Movement Emission Reduction Program to achieve early or extra emission reductions. These measures and incentives have been incorporated into California's 8-hour ozone and PM2.5 SIPs for regions where additional reductions are needed.

  ARB also conducts health risk assessments for major seaports and rail yards in California, and works with ports, railroads, and air districts to reduce the localized health risk. ARB coordinates with federal agencies that have authority for some of these emission categories to advocate for more effective national and international standards.

- **Adopting and implementing measures to reduce greenhouse gas emissions.**

  The California Air Resources Board (ARB) is the lead agency for the implementation of the California Global Warming Solutions Act of 2006 (AB 32). In this capacity, ARB has developed greenhouse gas emission inventories by economic sector, set a 2020 target for emission reductions, adopted nine Discrete Early Action measures to obtain near-term reductions, adopted a Scoping Plan that lays out California's overall strategy to reduce greenhouse gases, and begun adopting the specific emission reduction measures identified in the Scoping Plan. The Scoping Plan covers a broad and unprecedented range of emission sources such as transportation, electricity generation and other large sources, residential and commercial users, agriculture and forests, landfills, and other sectors.

ARB is also part of a multi-agency Climate Action Team (CAT) that identifies the actions California should take to adapt to the unavoidable consequences of climate change and reduce emissions dramatically by 2050 to avoid catastrophic climate change in the long-term. The CAT recently released its second biennial report to the Governor and the Legislature on the progress made toward meeting the statewide greenhouse gas target. Under the leadership of the California Natural Resources Agency, ARB together with the other CAT agencies is also helping to finalize California's first comprehensive climate adaptation strategy to reduce our risks to future climate impacts in a coordinated and cost-effective approach.

- **Meeting obligations under the federal Clean Air Act.**

  ARB works with local and federal partners to develop State Implementation Plans for ozone and particulate matter in California non-attainment areas in response to U. S. EPA's promulgation of the new national eight-hour ozone standard and the fine particulate matter (PM2.5) standards.

- **Promoting the development, commercialization, and use of zero- and near-zero emission technologies.**

  ARB is taking the initial steps in the development of a hydrogen transportation system that is a bridge to a cleaner, more secure, and more sustainable transportation and energy future. ARB recognizes that the development, commercialization, and the use of zero- and near-zero emission technologies is critical for achieving and maintaining federal and State air quality standards.

- **Demonstrating the viability and promoting the commercialization of fuel cells in many applications.**

  ARB is a member of the California Fuel Cell Partnership and the California Stationary Fuel Cell Collaborative. The California Fuel Cell Partnership is a collaboration of automotive manufacturers, fuel providers, fuel cell technology companies, and government agencies that are placing fuel cell electric vehicles on the road in California. ARB's role in the partnership includes support of zero emission bus demonstrations, development of fueling codes and standards, development of infrastructure deployment, and education and outreach.

  The California Stationary Fuel Cell Collaborative promotes the use of fuel cell technology in distributed generation and other stationary applications to help bring clean, efficient, reliable and sustainable power to all Californians. The collaborative promotes the deployment of fuel cell technologies as a means of reducing or eliminating air pollutants and greenhouse gas emissions; increasing energy efficiency; promoting energy reliability and independence; advancing informed public policy; initiating public demonstrations of stationary fuel cells for distributed generation; conducting key studies to further existing knowledge about fuel cell capabilities and the impact of fuel cells for distributed generation;

raising public awareness about and acceptance of this technology; and helping the state of California move closer to realizing a sustainable energy future

- **Participating in the implementation of the California Hydrogen Highway Network Action Plan.**

  ARB works to achieve the goal of the California Hydrogen Highway Network Initiative of supporting and catalyzing a rapid transition to a clean hydrogen transportation economy in California that has promise for providing a cleaner, more secure and more sustainable transportation and energy future; reduce our dependence on foreign oil; reduce greenhouse gas emissions; improve our air quality; and grow the California economy. ARB is working to establish hydrogen fueling station demonstration projects and acquire a diverse fleet of hydrogen vehicles for use in State fleets and university or airport shuttle services.

- **Coordinating environmental justice efforts with Cal/EPA.**

  ARB participates in Cal/EPA's Children's Environmental Risk Reduction Plan (ChERRP), which consists of the development of cumulative impact analysis tools and community-driven pilot projects. The pilot projects explore innovative strategies to reduce environmental health risks to children. ChERRP is a collaborative effort with community members; other Cal/EPA Boards, Offices, and Departments; local agencies; businesses; and other interested stakeholders, and is focused on several communities in Southern California.

SUPPORTING WORK ELEMENTS

Improving the scientific understanding of the relationship between air pollution and health effects by:

- **Understanding the relationship between air pollution and health effects.**

  ARB evaluates and establishes clean air targets that protect the health of all Californians, including sensitive individuals and those living in areas with environmental justice concerns, and the State's sensitive ecosystems.

- **Characterizing air pollution exposure.**

  ARB advances its understanding of human exposure to air pollution by characterizing personal exposure to pollutants from both indoor and outdoor sources. This allows ARB to focus regulatory activities on those pollutants that represent the greatest health concerns.

- **Developing an understanding of the sources of global air pollution and its impacts on the environment.**

  ARB is working to better understand the effects of changes in the global climate due to increases in carbon dioxide and other greenhouse gases. ARB also identifies the research needed to determine the impact of these changes on

regional air quality and, in turn, on existing and future control strategies. In addition, a more quantitative understanding of the sources of global climate change is needed before effective mitigation methods can be determined and assessed.

Improving technical tools to assess the nature and sources of air pollution, and evaluating the effectiveness of air quality improvement strategies by:

- **Developing the atmospheric modeling capability needed to support attainment demonstrations for the State ozone standard.**

  ARB and U.S EPA work together to plan and carry out the work necessary to ensure that the air quality modeling needed to develop plans for attaining federal and State ozone standards is based on the best science possible.

- **Refining the current understanding of particulate matter pollution.**

  ARB works to have a science-based understanding of the nature of the particulate matter problem, the relative contribution of pollution sources, and how the problem varies by area.

- **Developing new tools to provide air quality information to the public.**

  ARB staff develops community based internet tools that provide air quality and emissions information to the public in an easy to use format.

- **Promoting the advancement of air pollution equipment technology.**

  ARB enhances emission monitoring and measurement methods through its research program.

- **Improving understanding of the multimedia ecological effects of air pollution.**

  ARB works to better understand the ecological and multimedia effects of air pollutants on California's natural environment through research to improve the scientific understanding of the relationship between air pollution and ecological effects. Past studies indicate that air pollution deposition damages native pine forests and other ecosystems, contributes to crop injury throughout the State, and poses a threat to aquatic ecosystems and water quality.

- **Assessing and improving air quality in the California-Mexico border region.**

  ARB works cooperatively with U.S. and Mexican environmental agencies to build the foundation for successful air quality management strategies for the California-Mexico border region. ARB operates air monitoring stations in Baja California

and compiles air quality data and emission inventories for the cities of Mexicali and Tijuana.

ARB renewed its commitment to protect the environment and public health in the border region through work on the Border 2012 Program, a 10 year environmental plan developed by Mexico and the United States.

Ensuring regulatory programs achieve the necessary emission reductions through compliance assistance paired with aggressive, firm, and fair enforcement:

- **Broadening ARB's mobile source enforcement program to address newly targeted sources and tackle emerging and expanding pathways of commerce.**

  ARB designs and implements new compliance/enforcement strategies to ensure the effective implementation of new regulations such as those that limit heavy-duty diesel vehicle idling, and reduce emissions from solid waste collection vehicles, and minimize emissions from California's shipping ports and rail yards.

- **Coordinating multimedia inspections and investigations with other Cal/EPA agencies.**

  ARB works with other law enforcement agencies (including environmental, police, customs and immigration, and the U. S. Coast Guard) to establish a strong enforcement presence statewide to address all manner of transportation violations.

- **Strengthening and fine-tuning enforcement efforts in the fuels, consumer products, cargo tanks, asbestos abatement, and other non-mobile source programs.**

  ARB is expanding its enforcement program to address several new emission areas – including incineration practices on cruise ships, locomotive idling, and fuels used by ships while in and around the ports.

- **Supporting efforts to improve local air district enforcement and permitting programs.**

  ARB provides an oversight role to the air districts by offering assistance and training to district inspection staff, providing enforcement compliance program evaluations, and additional source inspections and testing.

Please see Attachment A for specific work plan products.

CITY OF LOS ANGELES- HARBOR EEPARTMENT
PORT OF LOS ANGELES
AMERICAN RECOVERY AND REINVESTMENT ACT
ARRA
GRANT # 00T13601-2

Advanced Monitoring Review

1. Introduction, Background and Methodology

The American Recovery and Reinvestment Act of 2009 authorizes EPA to award grants which will protect public health, preserve and create jobs, and promote economic recovery. Specifically for this program it authorizes $300,000,000 for Diesel Emission Reduction National Program grants pursuant to title VII, subtitle G of the Energy Policy Act of 2005.

On November 17, 2009 an award in the amount of $1,991,750 was made to the City of Los Angeles -Harbor Department, often referred as the Port of Los Angeles (POLA). The cooperative agreement provides funding to Port of Los Angeles under the American Recovery & Reinvestment Act of 2009. The project will implement a diesel emissions reduction project that includes equipment replacements, engine repower and engine retrofits to a variety of cargo handling equipment and harbor craft currently in operation at the port. Equipment will be replaced with similar equipment that is outfitted with certified cleaner diesel engines. The majority of the retrofits are verified diesel emission control strategies, which are verified by the US EPA and the California Air Resources Board to reduce particulate matter by 85 percent, in addition, to various levels of hydrocarbon and carbon monoxide reductions.

This project will directly benefit the Port of Los Angeles in achieving significant reductions in diesel emissions through the implementation of a project that includes: fourteen retrofits, nine engine repowerments and four replacements. The majority of the retrofits are verified diesel emission control strategies that will reduce particulate matter, carbon monoxide, nitrogen oxide and hydrocarbons from existing diesel equipment and port vessels, thereby improving air quality and protecting public health.

The Port of Los Angeles together with tenants who own and operate equipment and vessels within the harbor are included in the overall scope of the project. In addition to the Port of Los Angeles, tenants included in project are: SA Recycling, Cruise Terminal, Ports America and APL. The tenant projects are independent of each other and are not reliant on each other for completion of the project. Below is a summary of the projects to be completed under this grant:

Equipment Owner	Diesel Equipment Type	Total Number of Units/Projects
Harbor Department (POLA)	Truck	3
	Sweeper	1
SA Recycling	Loader	2
	Material Handler	1
	Crane	1
Cruise Terminal	Forklift	1
	Truck	1
Ports America	Forklift	9
APL	Top Handler	2
	RTG Crane	6(retrofit and repower)
Total		**27 Units** **24 engines/27 projects**

Equipment Type	Replace	Repower	Retrofit	Total Number of Projects	Model Year	Useful Life
Equipment	4	9	14	**27**	1984-2002	1 to 15 years
Total	**4**	**9**	**14**	**27**		

The vehicle replacement and repower projects are being replaced with similar equipment with cleaner and certified diesel engines. In addition, three rubber tired gantry crane (RTG) retrofit projects will use VYCON's REGEN system, which is verified to reduce particulate emissions (PM) by 25 percent.

The programmatic conditions for this award include the following reporting requirements:

Reporting Period: June 15 – September 30, due date October 30
Reporting Period: October 1 – December 31, due date January 30
Reporting Period: January 1 – March 31, due date April 30
Reporting Period: April 1 – June 30, due date July 30
Reporting Period: July 1-September 30, due date October 30
Reporting Period: October 1-December 31, due January 30
Final Report: March 31, 2011

This project supports fifty-three direct and indirect one year full-time equivalent jobs in the manufacturing, mechanic jobs and clean air technology sector. The Port of Los Angeles will administer EPA funds to its tenant partners. Equipment owners (port and tenants) will fund the balance of the project costs; equipment owners will be responsible for ordering the retrofits, equipment, and/or engines ensuring that federal funding will be directed back into the economy.

II. Results of Review with Recommendations (success and findings)

The evaluation was conducted with the Port of Los Angeles's Kevin Maggay on August 3, 2010. The focus of the evaluation was on the Port of Los Angleles's efforts in completing the grant workplan tasks and meeting the programmatic conditions included in the grant award. In addition, the evaluation provided the opportunity for the Port of Los Angeles to identify any issues that may need to be addressed.

On November 17, 2009 an award in the amount of $1,991,750 was made to the Port of Los Angeles. The Port of Los Angeles provided $675,250 in funding for the project. The total funding amount for this project is $2,667,000.

The grant workplan was revised on June 12, 2009 and on July 27, 2010 a no cost time extension was granted that extends the project to December 31, 2010. The grant extension was requested by the Port of Los Angeles due to the delay in delivery of the retrofit units for the rubber tired gantry crane retrofit project. The revised schedule calls for the three units to be delivered by December 2, 2010.

As of August 3, 2010, workplan tasks/outputs had been completed in accordance with the approved workplan. The status of the Port of Los Angeles's efforts towards completing the work plan tasks/outputs were based on the desk review evaluation conducted on August 3, 2010, with the Port of Los Angeles and on information contained in the quarterly progress report submitted to EPA.

Prior to the review, an analysis of the budget information was accomplished by reviewing the payment history to assess whether the Port progress was commensurate with payments requested by the recipient. This analysis indicated that the Port of Los Angeles's draw down of funds was consistent with the progress of completing the grant outputs/tasks. As of August 3, 2010, the Port of Los Angeles's had requested
The Port of Los Angeles is required to submit a Financial Status Report (FSR) within ninety days of the expiration or termination of the grant.

Official close-out of the grant will be competed upon receiving the final technical report and the financial status report. Both are due within ninety days of the grant's project end date.

In addition, to meeting the grant's outputs/tasks described above, the Port of Los Angeles' has met all grant programmatic conditions as the evaluation date.

No budget modifications were submitted for approval by the Port of Los Angeles.

No travel expenses were incurred under this grant agreement.

III. Resolution Plan and Timing

This evaluation indicates that the Port of Los Angeles is competing grant workplan tasks as scheduled in the grant workplan. Financial drawdowns have been conducted. As of August 3, 2010, the Port of Los Angeles is meeting all grant programmatic conditions.

No recommendations or corrective actions are required for this grant at this time.

IV. Appendix

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